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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,492	11/12/2003	Zhan Gao	16274.156a	7215
22913	7590	08/10/2007		
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER RAHLL, JERRY T	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/706,492	Applicant(s) GAO ET AL.	
	Examiner Jerry T. Rahl	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12, 15-21 is/are allowed.
- 6) ☒ Claim(s) 3-9, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 3, 8, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,753,958 to Berolo et al.
3. Regarding Claim 3, Berolo et al. describes a planar optical circuit with optical output ports (to 43 and 47) having an integrated optical component (89) associated with a planar substrate (see Figure 8), a waveguide (43, 47) configured to transfer an optical signal associated with the optical component, and a scattered light system (slab waveguide with 42 and 44) operable to influence propagation of the scattered light from the output port in a targeted manner and integrated into the planar substrate, where the scattered light system comprises an additional waveguide (44), one end of which is arranged in the vicinity of a scattered light source (42).
4. Regarding Claim 8, Berolo et al. describes an end of the additional waveguide (44) terminated at a photodiode (46).
5. Regarding Claim 13, Berolo et al. describes the scattered light system (42) comprising a scattered light reflecting structure associated with the planar substrate (see Column 6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berolo et al.

9. Regarding Claim 9, Berolo et al. does not describe the photodiode coupled to an evaluation circuit that determines optical power of the signal output of the optical component. However, evaluation circuits are well-known devices in the art for connection to photodiodes. At the time of invention, it would have been obvious to one of ordinary skill in the art to couple the photodiodes of Berolo et al. to an evaluation circuit that determines optical power of the signal output. The motivation for doing so would have been to analyze the data provided by the spectrometer of Berolo et al.

Art Unit: 2874

10. Regarding Claim 14, Berolo et al. does not describe the scattered light reflecting structure including a trench within the planar substrate. However, Berolo et al. does describe the scattered light reflecting structure including an echelle grating. Echelle gratings formed with a trench structure are well-known in the art. At the time of invention, it would have been obvious to one of ordinary skill in the art to form the echelle grating of Berolo et al. using a trench in the substrate. The motivation for doing so would have been to use well-known efficient manufacturing techniques.

11. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berolo et al. as applied to Claim 1 above, and further in view of US Patent Application Publication No. 2002/0131685 to He et al.

12. Regarding Claim 6, Berolo et al. does not describe the additional waveguide as S-shaped. He et al. describes a scattered light system using S-shaped additional waveguides (20) (see figure 4). At the time of invention, it would have been obvious to one of ordinary skill in the art to form the waveguides of Berolo et al. in the S-shape of He et al. The motivation for doing so would have been to configure the device of Berolo et al. in a back-reflection design, allowing all inputs and outputs to occur at a single face. This would make support and housing of the optical circuit easier.

13. Regarding Claim 7, He et al. describes the additional waveguides having a first, straight region parallel to the waveguide structure (at right ends in Figure 4), and an S-shaped region (middle to left end) that adjoins the first straight region.

Allowable Subject Matter

14. Claims 10-12 and 15-21 are allowed.

Art Unit: 2874

15. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 4 and 5 describe the optical component as a Mach-Zehnder interferometer. There is no suggestion to substitute a Mach-Zehnder for the switch in the spectrometer of Berolo et al.

17. Claims 10-12 describe the scattered light system including a light-absorbing structure. There is no suggestion or motivation to use light absorbing material in the output waveguide of Berolo et al.

18. Claims 15-18 describe the circuit including a plurality of waveguides and a plurality of trenches, where the trenches extend parallel to and between the waveguides. There is no suggestion or motivation to form light scattering place trenches between the waveguides of Berolo et al.

19. Claims 19-21 describe a trench terminating a monitoring waveguide local to the waveguide structure and a photodiode within the trench. There is no suggestion or motivation to form the photodiodes of Berolo et al. within a trench.

Response to Arguments

20. Applicant's arguments filed May 18, 2007 have been fully considered but they are not persuasive.

21. Applicant argues that Berolo et al. does not describe the additional waveguide having an end that is in the vicinity of the output port of the optical component. As can be seen in Figure 8 of Berolo et al., the ends of waveguides (44) are located in the vicinity of the output port (to 43 and 47) of the optical component (89). While the waveguides are not configured to directly

Art Unit: 2874

receive light from the output ports, “vicinity” only refers to a positional location. The ends of the waveguides (44) not coupled to the photodetectors (46) are clearly in the general vicinity of the optical component (89) and its output ports.

22. Applicant also argues that the scattered light system of Berolo et al. does not influence the scattered light from the output port in a targeted manner. However, when the slab waveguide, the grating (42) and the waveguide (44) are considered a scattered light system, it the slab waveguide allows influenced scattered light propagation from the grating (42) to the waveguides (44) in a targeted manner.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-F (9:00-5:00).


Art Unit: 2874

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jerry T Rahll



MICHELLE CONNELLY-CUSHWA
PRIMARY EXAMINER
8/6/07